

ART 34 AMDT

- 9 -

Claims

1. A method of viewing the flame produced by a burner in a furnace, wherein the fuel burnt by the burner is natural gas, comprising viewing the flame through an interference filter adapted to pass light of the wavelength of sodium only.
2. A method as claimed in claim 1, wherein the furnace is the pyrolysis section of a petroleum cracker.
3. A method as claimed in claim 1 or 2, wherein the fuel burnt by the burner is a mixture of hydrogen, methane and air.
4. A method as claimed in claim 1, 2 or 3, wherein a window is provided in the wall of the furnace through which the burner flame can be viewed.
5. A method as claimed in claim 4, wherein the window is made of quartz.
6. A method as claimed in claim 4 or 5, wherein the interference filter is provided as a panel attached to the window of the furnace.
7. A method as claimed in claim 6, wherein the panel is hinged to the furnace so it can be placed over the window or removed by a user as required.
8. A method as claimed in any preceding claim, wherein a pair of glasses or goggles having an interference filter in each lens thereof is provided.
9. A method as claimed in any preceding claim, wherein the interference filter is provided in a camera arranged inside the furnace and adapted to photograph the burner

AMENDED SHEET

ART 34 PART

- 10 -

at regular intervals.

10. A method as claimed in claim 9, wherein the information from the camera is relayed to an operator who makes any necessary adjustments to the burner from a remote location.

11. A method as claimed in claim 9 or 10, wherein the camera is programmed to photograph the burner about once every 10 minutes.

12. A method as claimed in any of claims 9 to 11, wherein the camera is programmed to move along a row of burners and to photograph groups of one or more burner flames in turn.

13. An apparatus comprising a furnace, a burner for burning natural gas in the furnace and an apparatus for viewing the flame produced by the burner, the apparatus for viewing the flame comprising an interference filter adapted to pass light of the wavelength of sodium only.

14. An apparatus as claimed in claim 13, wherein a window is provided in the wall of the furnace through which the burner flame can be viewed.

15. An apparatus as claimed in claim 14, wherein the window is made of quartz.

16. An apparatus as claimed in claim 14 or 15, wherein the interference filter is provided as a panel attached to the window of the furnace.

17. An apparatus as claimed in claim 14, 15 or 16, wherein the filter is a panel which can be placed over the window or removed by a user as required.

- 11 -

18. An apparatus as claimed in any of claims 13 to 17, wherein the apparatus for viewing the flame comprises a pair of glasses or goggles comprising an interference filter in each lens thereof.

19. An apparatus as claimed in any of claims 13 to 18, wherein the apparatus for viewing the flame comprises a camera in which an interference filter is provided, wherein the camera is arranged inside the furnace and adapted to photograph the burner flame at regular intervals.

20. An apparatus as claimed in claim 19, comprising means for relaying the information from the camera to an operator and means for making any necessary adjustments to the burner from a remote location.

21. An apparatus as claimed in claim 19 or 20, wherein the camera is programmed to photograph the burner about once every 10 minutes.

22. An apparatus as claimed in any of claims 19 to 21, wherein the camera is programmed to move along a row of burners and to photograph groups of one or more burner flames in turn.

23. A furnace comprising a burner for burning natural gas housed within the walls thereof and a window provided in a wall of the furnace, wherein an interference filter adapted to pass light of the wavelength of sodium only is provided in or on the window.

24. Glasses comprising an interference filter provided in each lens thereof, wherein the interference filter is adapted to pass light of the wavelength of sodium only.